

***Espanola WTP***

***SUPPLY SYSTEM***

***ANNUAL SUMMARY REPORT***

***2013***



**Ontario Clean Water Agency  
Agence Ontarienne Des Eaux**

## **SECTION 1: INTRODUCTION**

This report is a summary of water quality information for the Espanola Water Treatment Facility, published in accordance with Schedule 22 of Ontario's Drinking-Water Systems Regulation for the reporting period of January 1, 2013 to December 31, 2013. The Espanola Water Treatment Facility is categorized as a Large Municipal Residential Drinking Water System.

This report is prepared by The Ontario Clean Water Agency on behalf of The Corporation of the Town of Espanola. A copy of the Summary Report must be provided to the members of the municipal council by March 31, 2014.

## **SECTION 2: WHAT DOES THE REPORT CONTAIN**

The report must list the requirements of the Act, the regulations, the system's approval and any order that the system **failed to meet** at any time during the period covered by the report. The report must also specify the duration of the failure, and for each failure referred to, describe the measures that were taken to correct the failure.

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For the purpose of enabling the owner of the system to assess the rated capability of their system to meet existing and future planned water uses, the following information is required to be included in this report:

- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary to the rated capacity and flow rates approved in the systems approval.

**SECTION 3: DAILY FLOW RATES**

In accordance with the Municipal Drinking Water License # 210-101, the Espanola water system shall not be operated to exceed a maximum rate of flow of 10,500.0 m<sup>3</sup>/d into the distribution system. The maximum daily treated flow into the distribution system in 2013 was 5,968.0 m<sup>3</sup> in July.

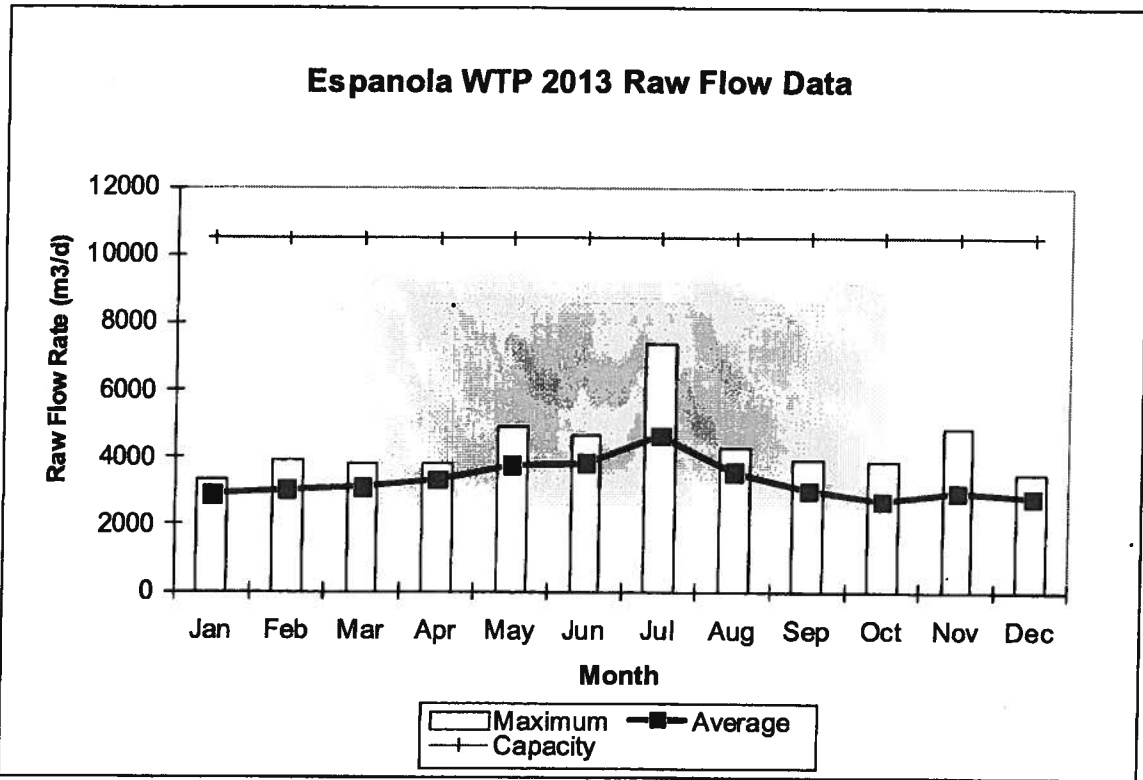
In accordance with the PTTW, the allowable rate of water taking is 121.53 L/s with a maximum daily volume of 10 500.0 m<sup>3</sup>/d. The monthly average raw water flow for this reporting period was 3,311.7 m<sup>3</sup>/d and the maximum daily flow for 2013 was 7,370 m<sup>3</sup>/d.

Flow totals and comparison of flow rates to the rated capacity are included in the table and graph below.

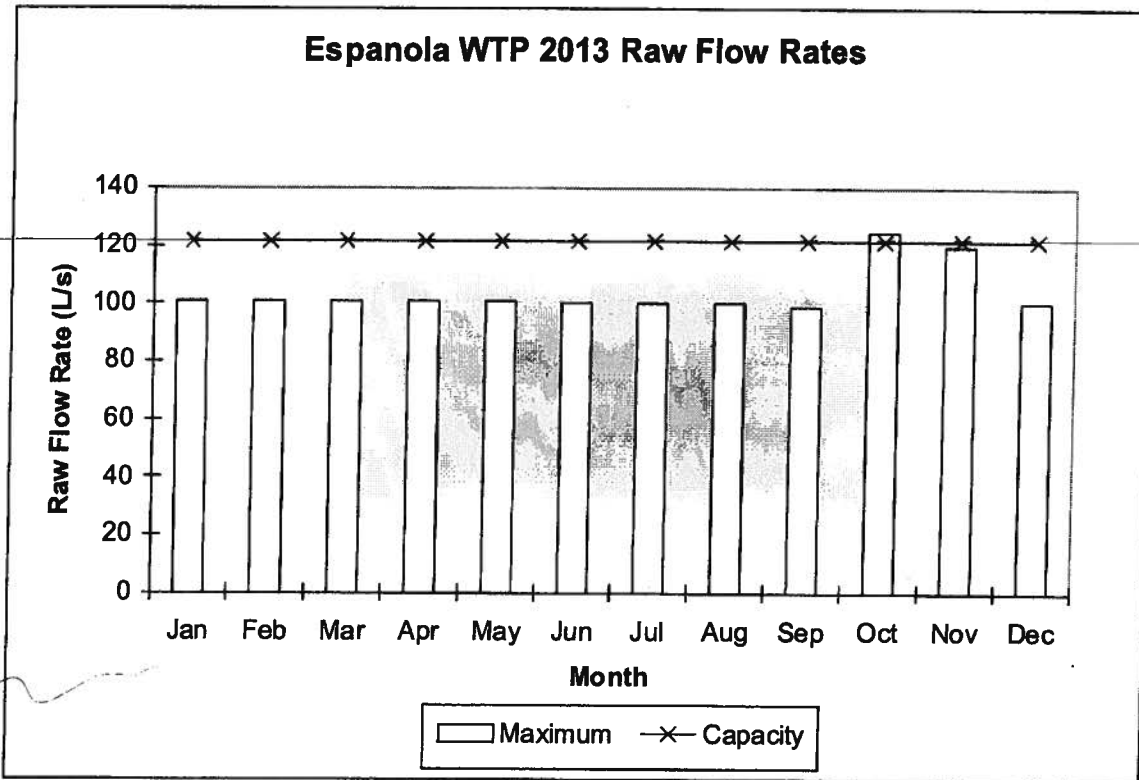
The quantity of water supplied during the reporting period did exceed the rated maximum capacity on 1 occasion; October 30, 2013.

2013	RAW WATER FLOW DATA						
	Month	Total Monthly Raw Flow (m <sup>3</sup> )	Average Raw Flow (m <sup>3</sup> /d)	Maximum Raw Flow (m <sup>3</sup> /d)	Maximum Raw Flow Rate (L/s)	Maximum Rated Capacity	
						L/s (PTTW)	m <sup>3</sup> /d (PTTW & MDWL)
January	89,948.2	2,901.56	3,334.0	101.39	121.53	10,500.0	
February	85,216.0	3,043.43	3,924.0	101.53	121.53	10,500.0	
March	96,419.0	3,110.29	3,810.0	101.62	121.53	10,500.0	
April	99,668.8	3,322.29	3,803.0	101.86	121.53	10,500.0	
May	116,906.0	3,771.16	4,909.0	101.33	121.53	10,500.0	
June	115,000.0	3,833.33	4,652.0	100.80	121.53	10,500.0	
July	144,468.0	4,660.26	7,370.0	100.50	121.53	10,500.0	
August	110,520.0	3,565.16	4,264.0	100.12	121.53	10,500.0	
September	90,412.0	3,013.73	3,939.0	99.74	121.53	10,500.0	
October	83,727.0	2,700.87	3,847.0	<b>125.55</b>	121.53	10,500.0	
November	89,389.0	2,979.63	4,848.0	120.73	121.53	10,500.0	
December	87,096.0	2,809.55	3,483.0	100.34	121.53	10,500.0	
<b>Total</b>	<b>1,208,770.0</b>						
<b>Average</b>		<b>3,311.70</b>					
<b>Maximum</b>			<b>7,370.0</b>	<b>125.55</b>			

**Comparison of Monthly Average and Maximum Rates of Flow**



**COMPARISON OF DAILY MAX RAW WATER FLOW RATES VS PTTW LIMITS**



Attached as *Appendix A* is the Annual Record of Water Taking.

#### **SECTION 4: SYSTEM FAILURES AND CORRECTIONS**

The Ministry of the Environment Drinking Water Inspections was conducted On February 25, 2013. The facility received a rating of 100%; no non-compliances were found.

#### **Adverses**

<b>Incident Date</b>	<b>Parameter</b>	<b>Result</b>	<b>Unit of Measure</b>	<b>Description/ Corrective Action</b>	<b>Resolve Action Date</b>
Feb 5, 2013	pressure	0	PSI	A BWA was imposed on residents due to repairs to a watermain break. The main was repaired, the system was flushed and bacteriological samples were taken 24 hours apart	Feb 7, 2013
Aug 27, 2013	Lead	28.4	Ug/L	Hydrant sampling resulted in a higher than normal lead result. System was flushed and resampled.	Sep 5, 2013

#### **SECTION 5: CONCLUSION**

The Espanola WTP delivers water that, in all its treated and distribution samples, indicates the water to be free of bacteriological contamination. There were 2 instances in 2013 resulting in an Adverse Water Quality Report.

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The Espanola WTP, for the 2013 operating year, was able to meet the demand of water use within the town without exceeding the Permit to Take Water except for October 30, 2013 which exceeded the L/S in the PTTW. Significant flushing was being performed on this day which accounted for higher than normal flows.

Attached as Appendix B, find the 2013 Annual Report as required by Drinking-Water System Regulation O. Reg. 170/03.

# ***APPENDIX A***

## **Annual Record of Water Taking**

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Ontario Clean Water Agency  
 Agence Ontarienne Des Eaux

**Annual Record Of Surface Water Taking  
 Relevé annuel des prises d'eau de surface**

Personal information contained on this form is collected under the authority of the Ontario Water Resources Act, Section 20. The Purpose of the form is to record details and information about the taking of water annually. Questions should be directed to the respective hub office in your area.  
 Les renseignements personnels qui figurent dans le présent formulaire sont recueillis en vertu de l'article 20 de la Loi sur les ressources en eau de l'Ontario. Ce formulaire sert à dossier les détails et les renseignements concernant la prise d'eau annuelle. Prière d'adresser toutes questions au personnel du bureau régional de votre secteur.

Year(Année): 2013 Permit No.(N° de permis):  
 Location: RW - Raw Water Source: Apsey Lake

Name of Permittee: Mailing Address:  
 Nom du titulaire du permis Adresse postale  
 Location Of Taking: Twp. or Municipality: Lot:  
 Lieu de la prise d'eau Canton ou municipalité

	Jan/2013	Feb/2013	Mar/2013	Apr/2013	May/2013	Jun/2013	Jul/2013	Aug/2013	Sep/2013	Oct/2013	Nov/2013	Dec/2013	←- Total →	←- Avg. →	←- Max. →	←- Criteria →
Avg Daily Taking(m3)	2,901.55	3,043.43	3,110.29	3,322.29	3,771.16	3,833.33	4,680.26	3,565.16	3,013.73	2,700.87	2,979.63	2,809.55		3,306.27		10,500.0
Total Amt of Taking(m3)	89,948.2	85,216.0	96,419.0	98,668.8	116,908.0	115,000.0	144,468.0	110,520.0	90,412.0	83,727.0	89,389.0	87,086.0	1,208,770.0			
Max Daily Flow(m3)	3,334.0	3,924.0	3,810.0	3,803.0	4,908.0	4,652.0	7,370.0	4,264.0	3,838.0	3,847.0	4,846.0	3,483.0		7,370.0		10,500.0

# ***APPENDIX B***

**Annual Report:  
2013 Operating Year**

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Part III Form 2  
Section 11. ANNUAL REPORT.

<b>Drinking-Water System Number:</b>	210000746
<b>Drinking-Water System Name:</b>	Espanola Water Treatment Facility
<b>Drinking-Water System Owner:</b>	The Corporation of the Town of Espanola
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1, 2013 – December 31, 2013

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p>Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [X]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X] No [ ]</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Town of Espanola, Municipal Office 100 Tudhope Street, Suite 2 Espanola, Ontario P5E 1S6</p> </div>	<p><b><u>Complete for all other Categories.</u></b></p> <p>Number of Designated Facilities served: [ ]</p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</p> <p>Number of Interested Authorities you report to: [ ]</p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</p>
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**Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report**

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water? Yes [ ] No [ ]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method - Mail out Notice with tax bill or hydro bill

**Describe your Drinking-Water System**

A water treatment plant completed in December 1996, located on part of Lot 9, Conc. 3, Merritt Township, rated at 10,500 m<sup>3</sup>/day with an intake from Lake Apsey and pumping station with low lift pumps, two solids contact clarifiers, three dual media filters, 1424 m<sup>3</sup> clear well, three high lift pumps, two backwash pumps, backwash water holding tank (500 m<sup>3</sup>) with pumps discharging to the sanitary sewer system. The chemical treatment systems consists of coagulant feed system, sodium hypochlorite (disinfection), caustic soda (pH & Alkalinity control), polymer(coagulant aid), fluoride feed system, corrosion inhibitor feed system.

Upgrades in 2009 added a Carbon Dioxide feed system (pH control) and Potassium Permanganate (oxidizing agent for iron & manganese control).

There is a 275KW diesel generator on site for emergency power.

Also included in the distribution system is an elevated tower with a maximum volume of 3410 m<sup>3</sup>.

**List all water treatment chemicals used over this reporting period**

Poly Aluminum Chloride (PAC)  
 Magnafloc LT 27 AG (Polymer)  
 Sodium Hypochlorite 12% (Disinfection)  
 Hydrofluorosilic-Acid (25% HFS)  
 Soda Ash  
 Poly Ortho Phosphate  
 Carbon Dioxide  
 Potassium Permanganate  
 Sodium Hydroxide

**Were any significant expenses incurred to?**

- Install required equipment
- Repair required equipment
- Replace required equipment

**Please provide a brief description and a breakdown of monetary expenses incurred**

- Supply and install modem – 1801\$
- Remove low lift motor, deliver to Siemens, pick up from Siemens and install repaired low lift pump – 2040\$
- Rebuild kit and pressure regulator for pre-chlorine – 1118\$
- Replacement of trim chlorine system with duplex diaphragm pump system – 9478\$
- Replacement of post chlorine system with new peristaltic pump – 15611\$
- Replacement of hot water tank – 5650\$
- Install 2 chemical boards – 1638\$
- DWQMS third party audit – 2614\$
- Replace raw water temp and differential pressure transmitter – 4576\$
- Replace fluoride panel with duplicate – 15611\$
- New fluoride probe, pH probe and chlorine calibration kit – 1888\$
- Chemical board installation – 1062\$

**Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre**

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrected Action Date
05-Feb-13	Pressure – Watermain maintenance	0	psi	BWA, Repair/flush/sample	7-Feb-13
27-Aug-13	Lead	28.4	ug/L	Resample	05-Sep-13

**Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period**

	Number of Samples	Range of E.Coli Or Fecal Results (min #)-(max #)	Range of Total Coliform Results (min #)-(max #)	Number of HPC /Background Samples	Range of HPC Results (min #)-(max #)
Raw	53	0-3	0-34	N/A	N/A
Treated	53	0-0	0-0	53	0-8
Distribution	211	0-0	0-0	53	0-1520

**Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report**

	Number of Grab Samples	Range of Results (min #)-(max #)
Turbidity (Filter 1)	8760	0.0 – 0.96 NTU
Turbidity(Filter 2)	8760	0.0 – 0.96 NTU
Turbidity(Filter 3)	8760	0.0 – 0.97 NTU
Chlorine (Plant-TW)	8760	0.04 – 5.0
Chlorine (Dist)	8760	0.213 – 4.99
Fluoride (If the DWS provides fluoridation)	8760	0.0 – 1.37

*NOTE: For continuous monitors use 8760 as the number of samples.*

*NOTE: Record the unit of measure if it is not milligrams per litre.*

**Summary of lead testing under Schedule 15.1 during this reporting period**

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Unit of Measure	Number of Exceedances
Plumbing	0	N/A	ug/L	0
Distribution	7	0.02 – 28.4	ug/L	1

MAC for Lead: 10 ug/L

Location Type	Number of Samples	Range of pH Results (min#) – (max #)	Range of Alkalinity Results mg/L as CaCO <sub>3</sub> (min#) – (max#)
Plumbing	0	N/A	N/A
Distribution	7	7.5-8.7	28-40

**Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument**

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure
N/A				

**Summary of Inorganic parameters tested during this reporting period or the most recent sample results**

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	14-Jan-13	0.02	ug/L	No
Arsenic	14-Jan-13	<0.2	ug/L	No
Barium	14-Jan-13	5.52	ug/L	No
Boron	14-Jan-13	6.8	ug/L	No
Cadmium	14-Jan-13	<0.003	ug/L	No

<b>Chromium</b>	14-Jan-13	<0.5	ug/L	No
<b>*Lead(Dist)</b>	N/A	0.328		
<b>Mercury</b>	14-Jan-13	<0.01	ug/L	No
<b>Selenium</b>	14-Jan-13	<1.0	ug/L	No
<b>Sodium</b>	09-Jan-12	18.9	mg/L	No
<b>Uranium</b>	14-Jan-13	<0.001	ug/L	No
<b>Fluoride(Avg)</b>	2013	0.537	mg/L	No
<b>Nitrite</b>	14-Jan-13	<0.005	mg/L	No
	21-May-13	<0.003	mg/L	No
	27-Aug-13	<0.003	mg/L	No
	12-Nov-13	<0.003	mg/L	No
<b>Nitrate</b>	14-Jan-13	0.026	mg/L	No
	21-May-13	0.025	mg/L	No
	27-Aug-13	0.074	mg/L	No
	12-Nov-13	0.008	mg/L	No

\*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

### Summary of Organic parameters sampled during this reporting period or the most recent sample results

Parameter	Sample Date (mm/dd/yyyy)	Result Value	Unit of Measure	Exceedance
Alachlor	14-Jan-13	<0.02	ug/L	No
Aldicarb	14-Jan-13	<0.01	ug/L	No
Aldrin + Dieldrin	14-Jan-13	<0.01	ug/L	No
Atrazine + N-dealkylated metabolites	14-Jan-13	<0.01	ug/L	No
Azinphos-methyl	14-Jan-13	<0.02	ug/L	No
Bendiocarb	14-Jan-13	<0.01	ug/L	No
Benzene	14-Jan-13	<0.32	ug/L	No
Benzo(a)pyrene	14-Jan-13	<0.004	ug/L	No
Bromoxynil	14-Jan-13	<0.33	ug/L	No
Carbaryl	14-Jan-13	<0.01	ug/L	No
Carbofuran	14-Jan-13	<0.01	ug/L	No
Carbon Tetrachloride	14-Jan-13	<0.16	ug/L	No
Chlordane (Total)	14-Jan-13	<0.01	ug/L	No
Chlorpyrifos	14-Jan-13	<0.02	ug/L	No
Cyanazine	14-Jan-13	<0.03	ug/L	No
Diazinon	14-Jan-13	<0.02	ug/L	No
Dicamba	14-Jan-13	<0.20	ug/L	No
1,2-Dichlorobenzene	14-Jan-13	<0.41	ug/L	No
1,4-Dichlorobenzene	14-Jan-13	<0.36	ug/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	14-Jan-13	<0.01	ug/L	No
1,2-Dichloroethane	14-Jan-13	<0.35	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	14-Jan-13	<0.33	ug/L	No
Dichloromethane	14-Jan-13	<0.35	ug/L	No
2-4 Dichlorophenol	14-Jan-13	<0.15	ug/L	No

2,4-Dichlorophenoxy acetic acid (2,4-D)	14-Jan-13	<0.19	ug/L	No
Diclofop-methyl	14-Jan-13	<0.40	ug/L	No
Dimethoate	14-Jan-13	<0.03	ug/L	No
Dinoseb	14-Jan-13	<0.36	ug/L	No
Diquat	14-Jan-13	<1.0	ug/L	No
Diuron	14-Jan-13	<0.03	ug/L	No
Glyphosate	14-Jan-13	<6.0	ug/L	No
Heptachlor + Heptachlor Epoxide	14-Jan-13	<0.01	ug/L	No
Lindane (Total)	14-Jan-13	<0.01	ug/L	No
Malathion	14-Jan-13	<0.02	ug/L	No
Methoxychlor	14-Jan-13	<0.01	ug/L	No
Metolachlor	14-Jan-13	<0.01	ug/L	No
Metribuzin	14-Jan-13	<0.02	ug/L	No
Monochlorobenzene	14-Jan-13	<0.30	ug/L	No
Paraquat	14-Jan-13	<1.0	ug/L	No
Parathion	14-Jan-13	<0.02	ug/L	No
Pentachlorophenol	14-Jan-13	<0.15	ug/L	No
Phorate	14-Jan-13	<0.01	ug/L	No
Picloram	14-Jan-13	<1	ug/L	No
Polychlorinated Biphenyls(PCB)	14-Jan-13	<0.04	ug/L	No
Prometryne	14-Jan-13	<0.03	ug/L	No
Simazine	14-Jan-13	<0.01	ug/L	No
THM (NOTE: show latest annual average)	2013	44.8	ug/L	No
Temephos	14-Jan-13	<0.01	ug/L	No
Terbufos	14-Jan-13	<0.01	ug/L	No
Tetrachloroethylene	14-Jan-13	<0.35	ug/L	No
2,3,4,6-Tetrachlorophenol	14-Jan-13	<0.14	ug/L	No
Triallate	14-Jan-13	<0.01	ug/L	No
Trichloroethylene	14-Jan-13	<0.44	ug/L	No
2,4,6-Trichlorophenol	14-Jan-13	<0.25	ug/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	14-Jan-13	<0.22	ug/L	No
Trifluralin	14-Jan-13	<0.02	ug/L	No
Vinyl Chloride	14-Jan-13	<0.17	ug/L	No

List any Inorganic or Organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Sodium	16.7	mg/L	09-Jan-12
THM	61	ug/L	Nov 12, 2013

(Only if DWS category is large municipal residential, small municipal residential, large municipal non residential, non municipal year round residential, large non municipal non residential)